Form C-104
Rev. 2/01

CONSTRUCTION VALUE ENGINEERING CONCEPT PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 09/30/2009

Contract ID 070928-X01 **Job No.** J0P0928

County Madison **Route** 67 **Original Bid Cost** $37,597,624.33

Contractor Emery Sapp & Sons **By** Matthew Oesch

Designed By Matthew Oesch **Phone** (573) 489-9216

VECP 09-86 VECP ☒

1. **Description of existing requirements and proposed change(s). Advantages/Disadvantages**

   Emery Sapp & Sons proposes to widen Crossover #4 by four feet on each side to create a total width of 28 feet allowing the crossover to capacitate head to head traffic. Widening the crossover will further expedite the project, create cost savings by eliminating traffic control items no longer required, and increase safety by eliminating the problematic Temp Connection 660+00.

2. **Estimate of reduction in construction costs.** $13,315.95

3. **Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.**

   None

4. **Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.**

   09/30/2009
   (date)

5. **Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.**

   10/09/2009 (date) — Allow access to grading/ paving prior to winter weather. (effect)

6. **Dates of any previous or concurrent submission of the same proposal.**

   N/A
   (date and/or dates)

Additional Comments:

A letter with detailed explanation of the modifications and spreadsheet detailing cost savings are included.

***** Portion Below This Line To Be Filled Out by MoDOT *****

Comments:

Matt Malone — Submitted By Resident Engineer — 10-7-09 — Date

Comments:

Recommend 50/50 split. Crossover #4 should be widened to 32' given our experience with crossover #12. Quantities/costs to be adjusted to reflect actual savings.

☑ Approval Recommended
☐ Rejection Recommended

Mark Shelton by L.A. Allen — District Engineer — 10-8-09 — Date

Comments:

Agree with District comments

☑ Approval
☐ Rejection

David D. Gower — State Operations Engineer — BAW — 10-19-09 — Date

Distribution: Resident Engineer, District Operations Engineer, State Operations Engineer
*Value Engineering Administrator - *MoDOT, P.O. Box 270, Jefferson City, MO 65102

Valued Engineering Proposal #7: Dual Lane Temp X-over #4

Removals

Construction Signs	Quantity # Signs	Unit Sqft	Unit Cost (Sqft)	Savings
2- Road Work Ahead	1	16	$7.00	$112.00
3- Reduced Speed Ahead	1	12	$7.00	$84.00
4- Speed Limit 40 mph	1	12	$7.00	$84.00
5- Rt/Lt Lane Closed Ahead	2	16	$7.00	$224.00
6- Rt/Lt Lane Closed	2	16	$7.00	$224.00
25- Speed Limit 60mph	1	12	$7.00	$84.00
54- Work Zone (plaque)	2	3	$7.00	$42.00
55- Do Not Enter	1	6.25	$7.00	$43.75

Flashing Arrow Pannel	1	EA	$3,000.00	$3,000.00
Impact Attenuator (14 Sand Barr	1	EA	$5,500.00	$5,500.00
Replacement Sand Barrels	1	EA	$1,000.00	$1,000.00
Channellzer (Trimline)	10	EA	$55.00	$550.00
Concrete Traffic Barrier Type F	276	LF	$35.00	$9,660.00
Temp Raised Pavement Markers	79	EA	$2.00	$158.00 Eliminate all raised pavement markers on CL from 650+16 - 681+74, tubular markers already in place at 20' spacing

Cost Savings $20,765.75

Additions

Construction Signs	Quantity # Signs	Unit Sqft	Unit Cost (Sqft)	Savings
15- Reverse Curve	1	16	$7.00	$112.00
16- Horizontal Arrow	2	8	$7.00	$112.00
29-Road Closed	1	10	$7.00	$70.00
44- Advisory Speed (plaque)	1	4	$7.00	$28.00

Tubular Marker	21	EA	$60.00	$1,260.00
Hot Mix Asphalt (BIT BASE)	99.10	TN	$58.00	$5,747.80
4" Yellow Acrylic Waterbore	600	LF	$0.20	$120.00

Additional Costs $7,449.80

Total Cost Savings $13,315.95

EMERY SAPP & SONS, INC.

140 Walnut St.
Kansas City, MO 64106
O: 816.221.3500
F: 816.421.9333

2602 N. Stadium Blvd.
Columbia, MO 65202
O: 573.445.8331
F: 573.445.0266

5350 E. State Hwy. AA
Springfield, MO 65803
O: 417.833.9915
F: 417.833.9981

September 30, 2009

Mr. Matt Malone, R.E.
Missouri Dept. of Transportation
105 Industrial Dr.
Park Hills, MO 63601

RE: Value Engineering Proposal 8 – Alter Crossover 4 to Dual Lane Configuration
Rte. 67, Madison County,
Job No. J0P0928

Mr. Malone:

This letter is written in proposition of a Value Engineering proposal to widen Crossover #4 and alter its traffic control format to capacitate head to head traffic. Emery Sapp & Sons proposes to widen Crossover #4 by four feet on each side to create a total width of 28 ft. allowing the crossover to be used in a separate traffic control scheme than that shown in the plans. Widening the crossover will further expedite the project and create cost savings by eliminating traffic control items no longer needed from the original plan.

Under original design both the NBL and SBL would have to be opened from Sta 682+00 in order for the Stage 2 traffic control shift to be activated. Once both lanes were open Crossover #4 would capacitate one lane of traffic; shifting traffic that was traveling SB on the now head to head NBL across the median to create divided highway on the SBL. All major traffic control devises were designed for merging traffic on NBL to one lane where it met with the crossover.

Emery Sapp & Sons proposes to widen Crossover #4 from 20 ft to 28ft providing two 12' travel lanes with a 2' paved shoulder (same as Bypass#2). Traffic could then be switched from the existing highway to the NBL via Crossover #4 prior to completion of NBL & SBL from Sta 682+00 south. This will allow earlier access to grading/paving of the Stage 2 work on the SBL from Sta 660+00 to Sta 682+00. Opening Stage 2 early will also eliminate traffic use of Temporary Connection 660+00, which has proved to be problematic having four accidents in a less than a two month period. By switching traffic onto Crossover #4 prior to activation of the divided highway, all traffic control devises intended for merging traffic to a single lane on the NBL can now be eliminated creating cost savings.

Traffic control will be altered in order to move traffic from head to head on the existing SBL to head to head on the new NBL. Tubular markers will be added at 20' spacing from Sta 681+74 to Sta 685+00 on CL, and at 40' spacing from Sta 685+00 to Sta 687+00 at CL. The sign package for the existing plan will be switched from the NBL to the SBL. Only one set of signs will be needed and the rest will be eliminated for cost savings. The arrow panel, Type F Barrier, Crash Attenuators, and several signs will be eliminated for cost savings of $13,315.95. Some additional signs will be installed for added safety. These items can all be seen on the attached diagram.

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In conclusion the value engineering proposal will eliminate unnecessary traffic control devises creating a cost savings by $13,315.95. The proposal will further expedite the project prior to winter by allowing early access to Stage 2 paving and grading of the future SBL from Sta 660+00 to Sta 682+00. Temporary Connection 660+00 will be eliminated sooner providing increased safety to the traveling public. Finally, public access to the new divided highway from Sta 497+00 to Sta 682+00 will be acquired significantly sooner than if constructed under the existing design.

Sincerely,

Matthew Oesch

Project Engineer

Emery Sapp & Son Inc.

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's, ect.)
- X TCP/MOT
- ☐ Paving (PCCP, ect.)
- ☐ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☐ Misc. _____

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

This proposal widens a crossover to allow for head to head traffic and eliminates some traffic control items and a temporary connection.

SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.

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